

## **REMARKS**

Applicants have received the Office Action dated September 22, 2008, in which Examiner: 1) rejected claims 11, and 13 under U.S.C. 102(b) as allegedly anticipated by Shen (U.S. Patent No. 5,687,336 “Shen”) with PC Guide (“The PC Guide: The Memory Controller”) used as external evidence; 2) rejected claims 1-4, 6-10, and 15-20 under 35 U.S.C. § 103(a) as allegedly obvious over Shen in view of Flake (U.S. Patent No. 7,065,613) and PC Guide; 3) rejected claims 12 and 14 as allegedly obvious over Shen in view of O’Connor (U.S. Patent No. 6,026,485 “O’Connor”); and 4) rejected claim 5 as allegedly obvious over Shen in view of Flake, and further in view of Ebrahim (U.S. Patent No. 5,893,121 “Ebrahim”). Applicants amend claim 17. Based on the amendments and arguments herein, Applicants respectfully submit that all pending claims are in condition for allowance.

### **Claims 1–16**

Independent claim 1 recites, in part, “reducing data traffic between various levels of a memory based on the [stack] trend information.” Independent claims 7, 9, 11, 15, and 16 also recite stack trend information. However, the cited references fail to teach or suggest the limitation. Examiner cites Flake at col.6 ¶.32–44 as allegedly teaching the limitation. At the cited location, Flake states “This old tag value corresponds to addresses 9C–9F, *which are in the unused section of the cache.*” At col.5 ¶.38–40 Flake explains: “By virtue of knowing when an access was or will be to *the unused portion of a stack*, the algorithm reduces writes and reads to main memory.” However, reducing writes and reads to main memory based on determining access to an unused portion of a stack does not teach or suggest reducing data traffic between various levels of a memory based on stack trend information. Specifically, determining access to an unused portion of a stack does not teach or suggest determining the trend information of the stack. Examiner responds on page 5 of the Office Action: “It should be noted that the decision to skip reading the line from main memory is based on the stack operation.” However, Applicants have not claimed a generic “stack operation;” rather, Applicants have claimed

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“stack trend information.” Furthermore, no other art of record teaches or suggests determining stack trend information using future stack operating instructions as required by the claims. For at least this reason, independent claims 1, 7, 9, 11, 15, and 16, along with dependent claims 2–6, 8, 10, and 12–14, are allowable over Shen with PC Guide, Shen in view of Flake, Shen in view of O’Connor, and Shen in view of Flake in further view of Ebrahim.

**Claims 17–20**

Independent claim 17, as amended recites, in part, “determining whether to write the dirty cache line to main memory based on whether the size of a stack is increasing or decreasing.” Insofar as Examiner’s citations apply to the claim as amended, the cited references fail to teach or suggest the quoted limitation. The above reasoning applies insofar that the cited references fail to teach or suggest conditionality based on a trend of the stack’s size, i.e. increasing or decreasing. For at least this reason, independent claim 17, along with dependent claims 18–20, are allowable over Shen in view of Flake.

**Conclusion**

For the reasons stated above, Applicants respectfully submit that the application is in condition for allowance. In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed, or that limitations from the specification can be imported into the claims. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

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Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in attachments accompanying this document. However, in the event that additional extensions of time are necessary to allow consideration of this document, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Texas Instruments Incorporated's Deposit Account No. 20-0668 for such fees.

Respectfully submitted,

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